

Nutrition & Yoga Combination Therapy: Why Together It May Better Treat Common GI Ailments

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TODAY'S AGENDA:

- Introduction & Housekeeping
- Speaker Introduction
- Presentation
- Q&A
- Closing



WEBINAR HOST:

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Owner of Purposeful Fueling Performance Nutrition and Yoga

Nutrition & Yoga Combination Therapy: Why Together it May Better Treat Common GI Ailments

Beth McCall, MS, RD, CSSD, RYT

Owner, Purposeful Fueling LLC

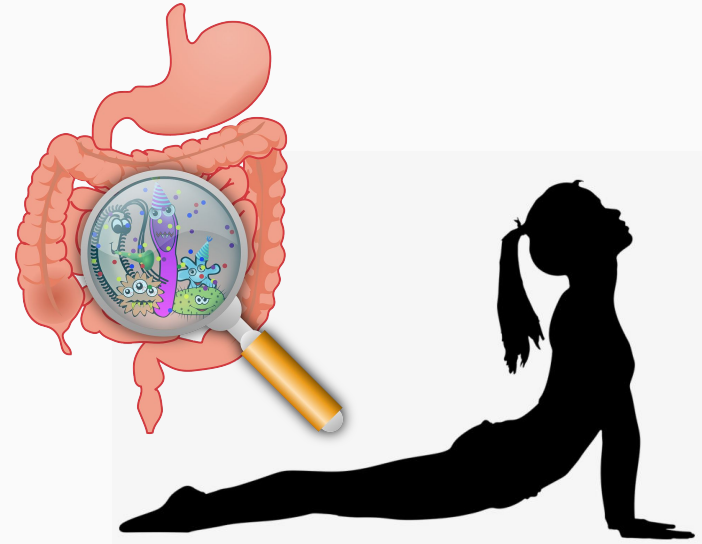
Sports Dietitian & Register Yoga Teacher





Presentation Overview

- Overview of Irritable Bowel Syndrome
 - Epidemiology, Comorbidities & Diagnosis
- What is the Gut-Brain Axis?
- Treatment of IBS
 - Medical, Nutritional & ... Yoga?!
- Combination Therapy in Athletes
 - Why yoga interventions with athletes?
- Athlete Case Studies
 - Two different cases for a practical perspective



Overview of IBS





What is IBS?

- Chronic functional disorder of the lower GI tract
- Chronic and relapsing symptoms including abdominal pain, bloating, excessive flatulence, fatigue and altered bowel movement
 - IBS-D = predominantly diarrhea
 - IBS-C = predominantly constipation
 - IBS-M = alternating episodes of both at random
- Significantly impacts quality of life for those impacted



What causes IBS?

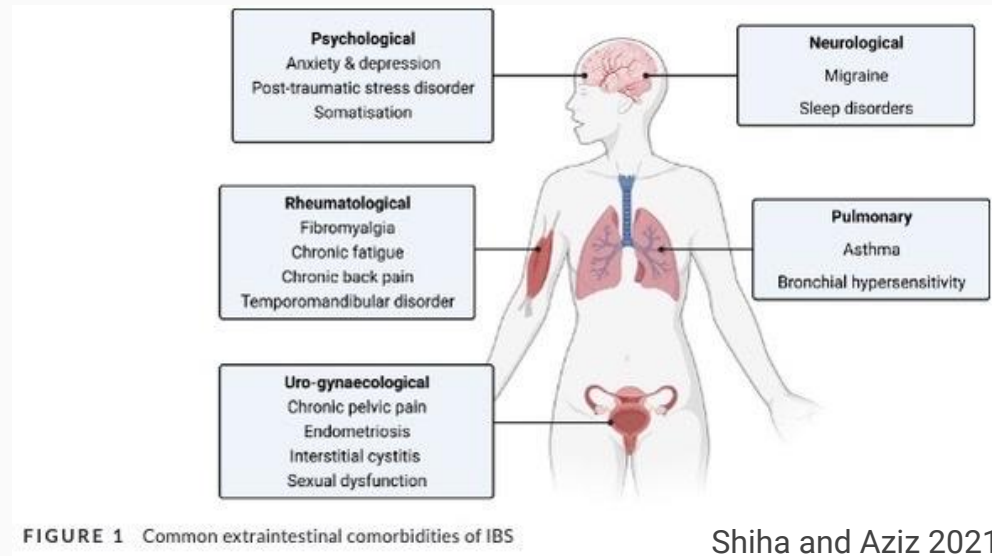
- Exact pathogenesis is unclear
- Variety of factors may play a role:
 - Gut Sensitivity - aka Visceral Sensitivity
 - Altered Gut Motility
 - Bacterial/Dysbiosis
 - Leaky Gut
 - Infections
 - Psychological Stress and Anxiety
- Diagnosis = Complicated





Comorbidities

- Correlations with co-existing GI disorders as well as other conditions outside of the intestines
- Co-Existing GI Disorders:
 - Symptomatic Reflux Disease
 - Functional Dyspepsia
- Non-GI Conditions:
 - Fibromyalgia
 - Chronic Fatigue Syndrome
 - Chronic Pelvic Pain
 - Depression and Anxiety***



What is the Gut-Brain Axis?





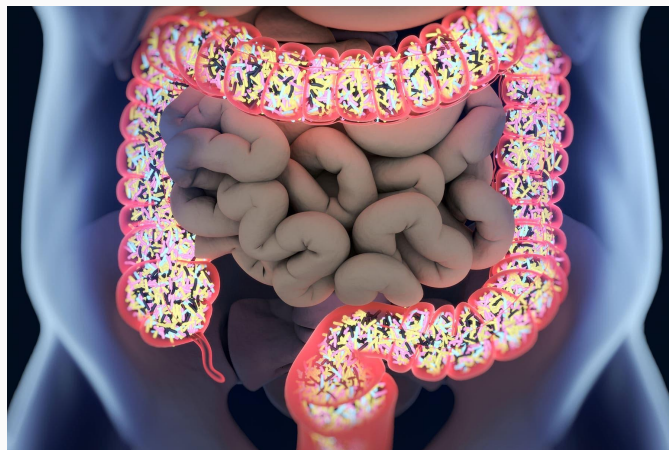
Gut-Brain Axis

- Also known as the Gut-Brain-Microbiome Axis
- Connects Central Nervous System (CNS) with Enteric Nervous System of the GI tract
- Facilitates bidirectional communication between the brain and the gut
- Microbiome sits in the middle - metabolites can relay messages between both organs
- When in balance → GI system & brain function optimally
 - Dysregulation can initiate IBS and other GI-related symptoms or disorders
 - Can also impact mental health and brain function



The Microbiome and IBS

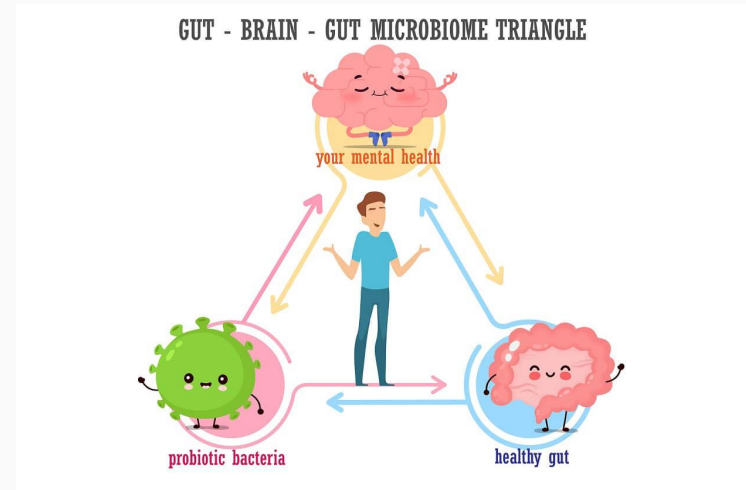
- Well documented that individuals with IBS have an altered gut microbiota
- Several factors may lead to a shift in microbiome results in IBS onset
 - Dietary changes
 - Antibiotic use
 - Infection
 - Stress





Stress, Anxiety and IBS

- Psychological distress is highly prevalent in patients with IBS
 - ~ **3X** more likely to have anxiety and depression
- Chicken or the egg concept
 - The answer could be either!
- Can turn into a vicious cycle and further disruption of the gut-brain axis



Treatments for IBS





Conventional Medicine Interventions

IBS-D Targeted Medications:

- Antidiarrheals (loperamide - "Imodium")
- Anti-spasmodic medication (dicyclomine)
- 5-HT₃ receptor antagonists (alosetron; ondansetron)
- Bile salt sequestrants (cholestryramine)
- Antibiotics (Rifaximin)

IBS-C Targeted Medications:

- Laxatives
- 5-HT₄ receptor antagonists (prucalopride)
- Prosecretory agents (lubiprostone)

Abdominal Pain:

- Anti-depressants (TCAs, SSRIs)
- Antispasmodics
- Coated peppermint oil capsules



Nutrition Therapy

Simple Healthy Eating Modifications

- Exact changes will be dependent upon the patient
- Caffeine, sat/trans fat, alcohol, spicy foods, low fluid intake...

Fiber Intake Modification

- Increase food intake, add a supplement, modify type.
- Tread lightly!

Elimination Diets (Short-Term)

- Low FODMAPs; Gluten Free; Food chemical restriction





Low FODMAP Diet

- Does not “cure” IBS but helps narrow down food triggers
- This diet is not meant to be used long term!
- Complete under the guidance of a professional only
- **Fermentable Oligosaccharides Disaccharides Monosaccharides And Polyols**
 - Naturally occurring in foods and added substances
 - Partial to no absorption in the small intestines, osmotically active compounds, and rapid fermentation by GI bacteria



3-Step Process of Low FODMAP Diet

- NOTE: This process needs to include education from and observation by a Registered Dietitian. It is not advisable to complete without professional guidance.
- **Step 1: Low FODMAP Plan**
 - Swap High FODMAP foods for Low FODMAP foods for 2 - 6 weeks
- **Step 2: Reintroduction Phase**
 - Over 8 - 12 weeks, reintroduce FODMAP rich foods *slowly* back into diet one by one to identify trigger foods/categories
- **Step 3: Personalization**
 - All foods that are well-tolerated are added back in. Long-term goal - find balance between tolerated foods and the avoidance of trigger foods



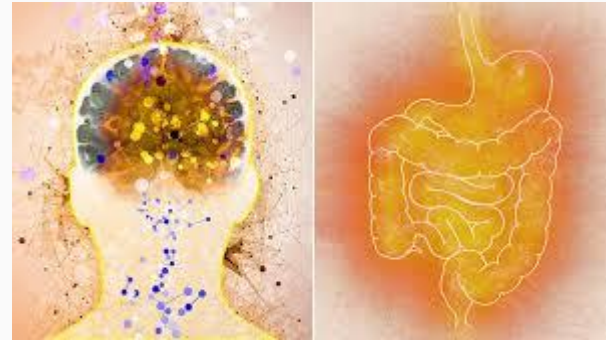
Low FODMAP vs. Gluten-Free vs. Balanced

- *“Effect of Three Diets (Low-FODMAP, Gluten-Free and Balanced) on Irritable Bowel Syndrome Symptoms and Health-Related Quality of Life”*. **Paduano et. al 2019**
- Comparison of the three on improvements of IBS symptoms, and overall quality of life for IBS patients
- 42 IBS patients enrolled - followed each diet for 4 weeks with 1 week in between
 - 28 of the 42 completed all three diets
- All three reduced symptoms of severity, bloating, abdominal pain and improved quality of life for the patients
- Main Note: **86%** of patients expressed preference to the Balanced diet compared to 11% for GF & only 3% for Low FODMAP



Psychological Therapies

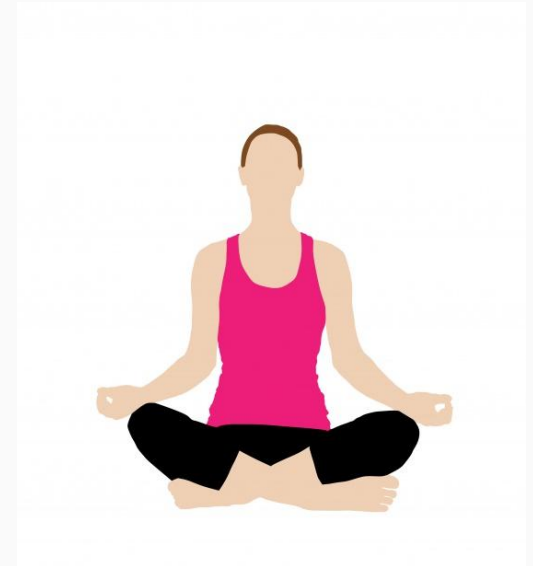
- Stress/anxiety significantly influence the development of IBS and flare up of symptoms that have been calmed
- Many psychological therapies have shown success in IBS symptom reduction:
 - Gut directed hypnotherapy
 - Mindfulness training
 - Cognitive behavioral therapy
 - Stress management





Yoga and IBS

- Breathwork, balance/strengthening, & meditation
- Increases body awareness and command over movement and breath
 - Leads to relaxation, stress reduction, and improved health
- Calming effects have shown to alleviate symptoms of anxiety, depression and stress-related ailments
 - Several studies have shown enhanced overall quality of life in individuals stress/anxiety
 - Medical students + stress levels yoga study





Yoga and IBS

- Yoga + comorbidities of IBS:
 - Pain management tool
 - Fibromyalgia, chronic back pain, chronic pelvic pain, chronic fatigue, sleep issues, migraines, PTSD
- Increases flexibility both internally and externally
 - More connected to bodies both internally and externally
 - Positive body experience and sense of well-being → stress reduction and improved quality of life
 - Stretching and twisting of the abdomen → alleviate distension & pain



Combination Therapy

- *“Remedial yoga module remarkably improves symptoms in irritable bowel syndrome patients: A 12-week randomized controlled trial”*. **Lavuri et. al 2015**
- Three randomized groups of 97 IBS patients (78 completed)
 - Yoga + limited conventional treatment
 - Combination → Yoga + Conventional Treatment
 - Wait List Control → maintained current lifestyle
- Symptom Severity, Quality of Life, Anxiety & Depression Scale, Autonomic Symptom Score, Global Assessment of Improvement





Combination Therapy

- *“Remedial yoga module remarkably improves symptoms in irritable bowel syndrome patients: A 12-week randomized controlled trial”*. **Lavuri et. al 2015**
- Significant improvements in Symptom Severity and Quality of Life in Yoga and Combination Groups compared to Wait-List
- Significant improvement in Anxiety & Depression score, autonomic functions, & physical flexibility in Yoga & Combination
- Conclusion: 12-week remedial yoga intervention could be a feasible stand-alone treatment or as an integrative option with conventional treatment of IBS



Yoga vs. Low-FODMAPs in IBS

- *“Randomised clinical trial: yoga vs a low-FODMAP diet in patients with irritable bowel syndrome.” Schumann et. al 2017*
- Patients w/ IBS - 12 weeks of yoga OR low-FODMAP diet plan
 - 2 yoga sessions weekly or 3 nutrition counseling sessions
- Primary outcome assessed: Change in GI symptoms
 - Secondary: Quality of Life, Health, Perceived Stress, Body Awareness, Body Responsiveness, and Safety of Interventions
- No significant difference found between groups - both were successful in relieving GI symptoms and the rest of the psychological and physiological health parameters measured

Yoga Poses for IBS



Relaxing Techniques & Meditation: Clear the mind and find intention

- Example Poses: Affirmations; Seated w/ Palms Up; Savasana, Legs Up a Wall





Yoga Poses for IBS

Breathwork: Draw focus to the body and breath

- Example Poses: Leg & arm raise breathing; Breath of Fire





Yoga Poses for IBS

Gentle Stretching & Loosening Exercises: External and internal flexibility -
Alleviates pain and distention

- Example Poses: Flow work - Warrior series, twisting, bending - endless options here!



Yoga Poses for IBS



Asanas/Postural Poses: Become one with the body & mind - more in tune

- Example Poses: Tree pose, Eagle, Triangle Pose, Bow Pose, Locust - endless again!



Nutrition & Yoga Combination Therapy in Athletes with IBS





Athletes and IBS

- VERY prevalent in the competitive athlete population
- Risk Factors
 - High stress environment
 - Poor sleep habits
 - High processed food intake - potentially high FODMAP intake naturally
 - Ever increasing rates of anxiety & depression
- Saw a significant increase in cases I treated over the last 2-3 years



Combination Therapy for Athletes

- Stress reduction + improved athletic performance → double whammy!
- Extremely individualized approach with athletes
 - Sport, training cycle/intensity, body comp, all goals need to be accounted for, not just gut health improvement
- Low FODMAP can be too limiting & not ideal for performance/health
- Back to the basics of nutrition → small changes, big impact
- Positives of combination therapy for athletes:
 - Less daunting & easier to stick with
 - Well-rounded - benefits more than just IBS
 - The Axis - impacts from gut up and brain down

Athlete Case Studies



Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
- ❖ Training for a marathon

Reason for Visit:

- Wanted predictable, regular bowel movements and feeling better overall with training.
- Overall fatigue - felt like she was not recovering well from training.

Pertinent History:

- 5-6 years ago started having bloating, constipation & discomfort with eating.
- Doctor completed a motility test and a colonoscopy - found nothing. No referral to RD.
- Started her on Linzess + OTC stool softener → after 9 months “this combo was awful”
- Tried Whole 30 and switching from whey protein to pea protein (all on her own - no RD).

Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
- ❖ Training for a marathon

Dietary Factors

- Inconsistent meal patterns and timing, especially on weekends. Described diet as very “brown”.
- Did much better on weekdays w/ veggies, leaner proteins, and whole grains.
- Largest meal was dinner - breakfast very small, lunch varied. At least 1 snack per day higher in processed sugar (candy or cookies).

Lifestyle Factors:

- Sleep: About 8 hours in bed but always waking up
- Stress: Self-Rated a 7 out of 10 overall; Completed the Stress-Symptom Scale and scored a 47 - “Moderately Higher than Average”
- No drugs or smoking; 4-6 alcoholic drinks/week

Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
- ❖ Training for a marathon

Current Bowel Patterns:

- Constipation switching to diarrhea often
- Inconsistent bowel movements - high urgency when needing to void
- Always needing to use bathroom when out on a run, and has to use it ASAP
- Bloating, pain and distention often. Worse on long run days or day before a race.

Typical Diet Around Runs:

- Night before: Sandwich or pizza
- Morning of: PB&J or part of a bar
- During: NUUN tabs + 1-2 full packs of chews
- After: Gatorade and protein shake
- Next meal time - varies between 1 - 3 hours

Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
- ❖ Training for a marathon

Initial Assessment:

- Patient with IBS-M
- Not previously controlled - feeling like she just needs to “live with it”
- Inconsistency with diet overall
- Diet around runs high in saturated fats (night before) and processed sugars
- Very high stress levels in day to day life
- Previous h/o elimination diets and various medications with no success
- Excess fatigue may be multi-faceted – inconsistent diet overall, improper recovery nutrition, high stress levels, poor sleep quality

Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
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Combination Therapy Treatment Plan:

- Nutrition Plan:
 - Maintain food-symptom log + track BM amount and timing
 - Balance out meal composition & timing - Increased size of breakfast, regular snack timing, smaller dinner.
 - Night before run - lean protein + veg + WG
 - During run - cut back on chews, increase water
 - Recovery - increase carb post-run + eat full meal within 1.5 hours post-run.
 - Incorporated Orgain + Greens to improve nutrient density overall
- Yoga Plan:
 - Two 60-minute slow flow sessions/week
 - One 30-minute recorded meditation

Athlete Case #1

- ❖ 30 year old female distance runner
- ❖ Seasoned runner - competes in 1 - 3 races every month
- ❖ Training for a marathon

Outcome:

- Saw some initial symptom improvement soon after consistent meal timing & composition
 - More regular & predictable BM day to day
 - Decreased urgency during runs
- After 4 weeks of Combo Therapy
 - Bloating and abdominal pain gone
 - No unexpected BMs during runs
 - 1-2 regular BMs per day
 - Stress Score: 30 → “Average”
 - Self-Rating: 5 out of 10
- After 8 weeks of Combo Therapy
 - Most GI related symptoms resolved
 - Overall recovery significantly improved - less soreness & fatigue. Faster run times!
 - Stress Score: 19 → “Lower than Average”
 - Self-Rating: 3 out of 10

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
- ❖ Pre-med student
- ❖ Team captain

Reason for Visit:

- Piercing pain in the right side, severe constipation, bloating/distention.

Pertinent History:

- Previous diagnosis of IBS-C after many tests ruling other conditions out.
- Gallbladder taken out at age 17 d/t low function
- Previous abdominal wall surgery at age 14
- Significant h/o antibiotic use for many years straight d/t 4-5 cases of strep throat per year
- History of eating disorder - very restrictive eating for about 2 years. Has been recovered for 8 years and weight restored.
- Many medications in past

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
- ❖ Pre-med student
- ❖ Team captain

Dietary Factors:

- Fairly balanced diet - had done a lot of her own research related to nutrition for athletes
- Tried gluten free on her own in high school - didn't see any benefits
- Doesn't eat red meat or fried foods since gallbladder surgery - causes pain

Lifestyle Factors:

- Average sleep ~ 5-6 hours per night
- About 3-4 hours of strenuous activity daily
- Stress: Self-rated a 6 out of 10; Stress Symptom Scale score of 40 → "Moderately higher than average"

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
- ❖ Pre-med student
- ❖ Team captain

Initial Plan

- Begin food-symptom log
- No major diet changes until GI visit
- Work on sleep - aim to get one extra hour per night and progress up from there

Referral to GI:

- Completed EDG - interesting finding
 - Needed a CT scan to rule out SMA syndrome
- Negative for SMA but still needed explanation for significant inflammation of the intestines
- Breath test revealed SIBO

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
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Combination Therapy Plan

- Nutrition Plan
 - Food-symptom log revealed issues with dairy and high fructans category → pain, gas, bloating, increased constipation
 - Chose to run a “modified Low FODMAP” plan - found dairy alternatives and decreased consumption of fructans - GF grains/starches, alternative fruits/veggies, decreased legumes
 - Started a probiotic and Bio-Gest digestive enzymes
- Yoga Plan
 - Two 60-minute slow flow sessions/week
 - One 30-minute recorded meditation

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
- ❖ Pre-med student
- ❖ Team captain

Outcome:

- After 4 Weeks:
 - Gas, pain and bloating significantly decreased
 - BM the most regular she could remember from the last 7 years
 - Sleep - still getting only 6 hours
 - Stress: Self-Rated 5 out of 10; Symptom Stress Score of 32 → “Average”
 - Started to reintroduce foods from Fructans list. Never tried reintroducing dairy - confirmed to cause significant pain

Athlete Case #2

- ❖ 21 year old female softball player
- ❖ NCAA D1 athlete
- ❖ Pre-med student
- ❖ Team captain

Outcome:

- After 8 Weeks:
 - Regular BM daily, bloating was minimal
 - Determined excessive wheat to increase bloating and constipation. Continued to limit, but added all other foods from Fructans category back into diet
 - Stress: Self-rated 4 out of 10; Stress Symptom Score of 14 - “Lower than Average”
 - Overall quality of life increased. Reported feeling better rested, less stressed about body image from bloating, felt more food freedom, loved the yoga - never thought she would like it.



Final Takeaways

- There is no one-size-fits-all approach when it comes to GI-related cases, especially IBS.
- Think outside of the box when it comes to treatment - so many different angles that can be taken. These case studies were only 2 examples!
- Gut Up and Brain Down → The bi-directional movement of the system means an extensive assessment is needed, and most likely treatments to address both the gut and the mind.
- Even if no stress/anxiety disorder has been officially diagnosed, important to assess where stressors might be coming from and take them seriously ... especially in today's world!

Namaste!

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References

Card, Timothy, et al. “The Epidemiology of Irritable Bowel Syndrome.” *Clinical Epidemiology*, 2014, p. 71., <https://doi.org/10.2147/clep.s40245>.

Van Oudenhove, Lukas, et al. “Central Nervous System Involvement in Functional Gastrointestinal Disorders.” *Best Practice & Research Clinical Gastroenterology*, vol. 18, no. 4, 2004, pp. 663–680., <https://doi.org/10.1016/j.bpg.2004.04.010>.

Grenham, Sue, et al. “Brain?Gut?Microbe Communication in Health and Disease.” *Frontiers in Physiology*, vol. 2, 2011, <https://doi.org/10.3389/fphys.2011.00094>.

Paduano, Danilo, et al. “Effect of Three Diets (Low-FODMAP, Gluten-Free and Balanced) on Irritable Bowel Syndrome Symptoms and Health-Related Quality of Life.” *Nutrients*, vol. 11, no. 7, 2019, p. 1566., <https://doi.org/10.3390/nu11071566>.

Kavuri, Vijaya, et al. “Remedial Yoga Module Remarkably Improves Symptoms in Irritable Bowel Syndrome Patients: A 12-Week Randomized Controlled Trial.” *European Journal of Integrative Medicine*, vol. 7, no. 6, 2015, pp. 595–608., <https://doi.org/10.1016/j.eujim.2015.11.001>.

Kavuri, Vijaya, et al. “Irritable Bowel Syndrome: Yoga as Remedial Therapy.” *Evidence-Based Complementary and Alternative Medicine*, vol. 2015, 2015, pp. 1–10., <https://doi.org/10.1155/2015/398156>.



References

Shiha, Mohamed G., and Imran Aziz. “Review Article: Physical and Psychological Comorbidities Associated with Irritable Bowel Syndrome.” *Alimentary Pharmacology & Therapeutics*, vol. 54, no. S1, 2021, <https://doi.org/10.1111/apt.16589>.

Schumann, D., et al. “Randomised Clinical Trial: Yoga vs a Low-FODMAP Diet in Patients with Irritable Bowel Syndrome.” *Alimentary Pharmacology & Therapeutics*, vol. 47, no. 2, 2017, pp. 203–211., <https://doi.org/10.1111/apt.14400>.

“IBS Central.” *IBS Central | Monash FODMAP - Monash Fodmap*, <https://www.monashfodmap.com/ibs-central/>.

Pearce, Jeni, and Stephanie Gaskell. “Athletes with Gastrointestinal Disorders, Food Allergies and Food Intolerance.” *Clinical Sports Nutrition*, 5th ed., McGraw Hill Education Australia, pp. 669–696.

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